

**Final Report**  
**Major Research Project**  
**“Spatial and Regression Analysis of**  
**Declining Juvenile Sex Ratio in Urban**  
**Gujarat with special Reference to**  
**three Districts :**  
**Mehsana, Gandhinagar and Surat”**

**Submitted to**  
**University Grants Commission**  
**New Delhi**

**Submitted by**  
**Dr. S.D.Mishra**  
**Department of Social Work**

**Sardar Patel University**  
**Vallabh Vidyanagar**  
**Gujarat**

1. Name of Principal Investigator Dr. S.D. Mishra  
 2. Deptt. Of University Department of Social Work, S. P. University  
 V. V. Nagar  
 3. UGC Approval No. and Date F.2-3/2012 (Policy / HRP) , Dated : 18/12/2012  
 4. Title of the Research Project "Spatial and Regression Analysis of Declining  
 Juvenile Sex Ratio in Urban Gujarat with  
 Special Reference to three Districts :  
 Mehsana, Gandhinagar and Surat".  
 5. Effective date if starting the project 01/04/2013  
 6. (a) Period of Expenditure 01/04/2013 to 31/03/2015  
 (b) Details of Expenditure

| S.No | Items                                                                                                                                                                                                                       | Amount<br>Approved | Expenditure incurred<br>so far |
|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|--------------------------------|
| 1    | Books & Journal                                                                                                                                                                                                             | 30,000.00          | 29,453.00                      |
| 2    | Equipments                                                                                                                                                                                                                  | 2,00,000.00        | 86,800.00                      |
| 3    | Honorarium                                                                                                                                                                                                                  | -----              | -----                          |
| 4    | Contingency                                                                                                                                                                                                                 | 50,000.00          | 45,452.00                      |
| 5    | Travel /Field work                                                                                                                                                                                                          | 1,25,000.00        | 57,427.00                      |
| 6    | Chemicals & Glassware                                                                                                                                                                                                       | -----              | -----                          |
| 7    | Hiring Service                                                                                                                                                                                                              | 50,000.00          | 50,000.00                      |
| 8    | Any other items (Over Head Charges 10% of<br>approved recurring Grant)                                                                                                                                                      | 43,600.00          | 43,600.00                      |
| 9    | Honorarium to Principal Investigator<br>(from <u>15/04/2013</u> to <u>15/04/2015</u> )                                                                                                                                      |                    |                                |
|      | Staff (dated of appointment)<br>(from <u>15/04/2013</u> to <u>31/03/2015</u> )<br>(please give details of staff appointment in<br>the prescribed format annexure IX as per XI<br>plan guidelines of Major Research Project) |                    | 3,29,467.00                    |
|      | <b>Total</b>                                                                                                                                                                                                                | <b>8,34,600.00</b> | <b>6,52,199.00</b>             |

## (a) Staff

Date of Appointment -- 15 / 04/ 2013

| S. No | Expenditure Incurred                                                  | From       | To         | Amount<br>Approved | Expenditure<br>Incurred . |
|-------|-----------------------------------------------------------------------|------------|------------|--------------------|---------------------------|
| 1.    | Honorarium to Staff :<br>Project Fellow<br>Salary @ Rs. 14,000 – p.m. | 15/04/2013 | 31/03/2015 | 3,36,000/-         | 3,29,467/-                |

1. It is certified that the appointment (s) have been made in accordance with the terms and conditions laid down by the commission.
2. If as a result of check or audit objection some irregularly is noticed at later date, action will be taken to refund, adjust or regularize the objected amounts.
3. Payment @ revised rates shall be made with arrears on the availability of additional funds.
4. It is Certified that the grants of Rs. ~~6,52,199.01~~ Rupees Six Lakh Fifty two thousand one hundred N.N. only received from the University Grants Commission under the Scheme of support for Major Research Project entitled 'Spatial and Regression Analysis of Declaring Juvenile Sex Ratio in Urban Gujarat with Special Reference to three Districts : Mehsana, Gandhinagar and Surat' vide UGC Letter No.F. 2-3/2012(Policy/HRP) dated 18/12/2012 has been partly utilized for the purpose for which it was sanctioned and in accordance with the terms and conditions laid down by the University Grants Commission.

*[Signature]*

**Dr. S. D. Mishra**  
SIGNATURE OF PRINCIPAL INVESTIGATOR  
**Principal Investigator**  
**UGC Major Research Project**  
**MSW Dept. SPU, V.V. Nagar**  
SIGNATURE OF THE CO – INVESTIGATOR

*[Signature]*

**R.H. Rajpurohit**  
REGISTRAR / PRINCIPAL  
**Registrar**  
**Sardar Patel University**  
**Vallabh Vidyanagar**



## STATEMENT OF EXPENDITURE INCURRED ON FIELD WORK

Name of the Principal Investigator:

| Name of the Place visited       | Duration of the visit |          | Mode of Journey | Expenditure Incurred (Rs.) |
|---------------------------------|-----------------------|----------|-----------------|----------------------------|
| Surat                           | 23/09/13              | 23/09/13 | By Train        | 535/-                      |
| New Delhi                       | 11/12/13              | 14/12/13 | By Air          | 18,372/-                   |
| Surat                           | 10/02/14              | 11/02/14 | By Road         | 7490/-                     |
| Mehsana                         | 13/02/14              | 14/02/14 | By Road         | 7514/-                     |
| Gandhinagar                     | 15/02/14              | 15/02/14 | By road         | 3712/-                     |
| Surat, Mehsana & Gandhinagar DA | 10/02/14              | 15/02/14 | By road         | 1320/-                     |
| Ahmedabad                       | 04/06/14              | 04/06/14 | By road         | 2485/-                     |
| New Delhi                       | 19/09/14              | 19/09/14 | By Air          | 9136/-                     |
| New Delhi                       | 16/10/14              | 18/10/14 | By Air          | 16863/-                    |
| <b>Total Expenditure</b>        |                       |          |                 | <b>67427/-</b>             |

Certified that the above expenditure is in accordance with the UGC norms for Major Research Projects.

SIGNATURE OF PRINCIPAL INVESTIGATOR

**Dr. S. D. Mishra**  
Principal Investigator

SIGNATURE OF THE CO- INVESTIGATOR  
MSW Dept. SPU, V.V. Nagar

REGISTRAR / PRINCIPAL

**Sardar Patel University**  
**Vallabh Vidyanagar**

PROFORMA FOR SUPPLYING THE INFORMATION IN RESPECT OF THE STAFF APPOINTED UNDER THE  
SCHEME OF MAJOR RESEARCH PROJECT

UGC FILE NO. F.C/B-7/SDM/13-14/509(HRP)

YEAR OF COMMENCEMENT : 01/04/2013

TITLE OF THE PROJECT :

'Spatial and Regression Analysis of Declaring Juvenile Sex Ratio in Urban Gujarat with Special Reference to three Districts : Mehsana, Gandhinagar and Surat'

|    |                                            |                         |                |      |             |      |
|----|--------------------------------------------|-------------------------|----------------|------|-------------|------|
| 1. | Name of the Principal Investigator :       | Dr. Shivani Mishra      |                |      |             |      |
| 2. | Name of the University / College :         | Sardar Patel University |                |      |             |      |
| 3. | Name of the Research Personnel Appointed : | Mr. Pritesh Patel       |                |      |             |      |
| 4. | Academic Qualification :                   | Sr. No.                 | Qualification  | Year | Marks       | %    |
|    |                                            | 1.                      | BA (Sociology) | 2004 | First Class | ---- |
|    |                                            | 2.                      | MSW            | 2006 | B+          | 56%  |
| 5. | Date of Joining :                          | 15/04/2013              |                |      |             |      |
| 6. | Date of Birth of Research Personnel        | 09/08/1983              |                |      |             |      |
| 7. | Amount of HRA, if drawn                    | -----                   |                |      |             |      |
| 8. | Number of Candidate applied for the Post   | 10                      |                |      |             |      |

CERTIFICATE

This is certify that all the rules and regulations of UGC Major Research Project outlined in the guidelines have been followed. Any laps on the part of the University will liable to terminate of said UGC Project.

*Shivani Mishra*  
Principal Investigator  
UGC Major Research Project  
MSW Dept. SPU, V.V. Nagar

*Shivani Mishra*  
HEAD OF THE DEPT.  
Director  
Dept. of Social Work  
Sardar Patel University  
Vallabh Vidyanagar.

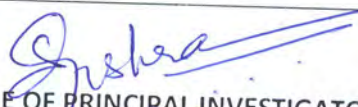
*R.H. Rajpur*  
REGISTRAR/PRINCIPAL  
Registrar  
Sardar Patel University  
Vallabh Vidyanagar



## Annual / Final Report of the work done on the Major Research Project

|       |                                                                                                                                                                                                                                                    |                                                                                                                                                           |
|-------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.    | Project Report No.                                                                                                                                                                                                                                 | Final                                                                                                                                                     |
| 2.    | UGC Reference No. & Date                                                                                                                                                                                                                           | F. 2-3/2012 (Policy/HRP), Dated : 18/12/2012                                                                                                              |
| 3.    | Period of Report from                                                                                                                                                                                                                              | 01-04-2013 to 31-03-2015                                                                                                                                  |
| 4.    | Title of the Research Project                                                                                                                                                                                                                      | "Spatial and Regression Analysis of Declaring Juvenile Sex Ratio in Urban Gujarat with Special Reference to three Districts : Mehsana, Gandhinagar, Surat |
| 5.    | (b) Name of the Principal Investigator                                                                                                                                                                                                             | Dr. S. D. Mishra                                                                                                                                          |
|       | (c) Department and University/ College where the project has undertaken                                                                                                                                                                            | Department of Social work, Sardar Patel University, Vallabh Vidyanagar                                                                                    |
| 6.    | Effective date of starting of the project                                                                                                                                                                                                          | 01 – 04 – 2013                                                                                                                                            |
|       | (a) Grants Received                                                                                                                                                                                                                                | ₹ 78,500.00                                                                                                                                               |
|       | (b) Expenditure incurred during the period of the project                                                                                                                                                                                          | ₹ 6,52,199.00                                                                                                                                             |
|       | (c) Report of the work done                                                                                                                                                                                                                        | Annexure B                                                                                                                                                |
| 7.(i) | Brief objective of the project                                                                                                                                                                                                                     | Please refer Annexure A (i)                                                                                                                               |
| (ii)  | Work done so far                                                                                                                                                                                                                                   | Please refer Annexure C                                                                                                                                   |
| (iii) | Has the progress been according to original plan of work and towards achieving objectives if not, state reasons                                                                                                                                    | Yes, The project is completed                                                                                                                             |
| (iv)  | Please indicate the difficulties, if any, experienced in implementing the project                                                                                                                                                                  | Nil                                                                                                                                                       |
| (v)   | If the project has not been completed, Please indicate the approximate time by which the project work is likely to be completed. A summary of the work done for the period (Annual basis) may please be sent to the Commission on a separate sheet | Project is completed                                                                                                                                      |
| (vi)  | If the project has been complete, please enclose a summary of the findings of the study. Two bound copies of the final report of work done may also be sent to the commission                                                                      | Please refer Annexure D                                                                                                                                   |

|       |                                                                                  |     |
|-------|----------------------------------------------------------------------------------|-----|
| (vii) | Any other information which would help in evaluation of work done on the project | Nil |
|-------|----------------------------------------------------------------------------------|-----|

  
 SIGNATURE OF PRINCIPAL INVESTIGATOR  
**Dr. S. D. Mishra**  
 Principal Investigator  
 HCC Major Research Project  
 MSW Dept. V.V. Nagar  
 SIGNATURE OF THE CO-INVESTIGATOR

  
 REGISTRAR / PRINCIPAL  
 Registrar  
 Sardar Patel University  
 Vallabh Vidyanagar



UNIVERSITY GRANTS COMMISSION  
BHADUR SHAH ZAFAR MARG  
NEW DELHI- 110 002

- |     |                                                      |                                                                                                                                                                       |
|-----|------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.  | Title of the Project                                 | <i>"Spatial and Regression Analysis of Declining Juvenile Sex Ratio in Urban Gujarat with special Reference to three Districts : Mehsana, Gandhinagar and Surat".</i> |
| 2.  | Name and Address of the Principal Investigator       | Dr. S.D.Mishra, Department of Social Work, Sardar Patel University, Vallabh Vidyanagar                                                                                |
| 3.  | Name and Address of the Institution                  | Sardar Patel University, Vallabh Vidyanagar. Gujarat, INDIA.                                                                                                          |
| 4.  | UGC Approval Letter No and Date                      | F.2-3/2012 (Policy / HRP) ,<br>Dated : 18/12/2012                                                                                                                     |
| 5.  | Date of Implementation                               | 01/04/2013                                                                                                                                                            |
| 6.  | Tenure of the Project                                | 01/04/2013 to 31/03/2015                                                                                                                                              |
| 7.  | Total Grant Allocated                                | 8,34,600.00                                                                                                                                                           |
| 8/  | Total Grant Received                                 | 3,78,500.00                                                                                                                                                           |
| 9.  | Final Expenditure                                    | 5,53,199.00                                                                                                                                                           |
| 10. | Title of the Project                                 | <i>"Spatial and Regression Analysis of Declining Juvenile Sex Ratio in Urban Gujarat with special Reference to three Districts : Mehsana, Gandhinagar and Surat".</i> |
| 11. | Objectives of the Project                            | Annexure - A (i)                                                                                                                                                      |
| 12. | Whether the Objectives were achieved                 | Annexure - A (ii)                                                                                                                                                     |
| 13. | Achievements from the project                        | Annexure - B (i)                                                                                                                                                      |
| 14. | Summary of the Findings (5000 words)                 | Annexure - D                                                                                                                                                          |
| 15. | Contributions to the society (give details)          | Annexure - B (ii)                                                                                                                                                     |
| 16. | Whether any PhD Enrolled/Produced out of the project | No                                                                                                                                                                    |
| 17. | No. Of Publications out of the Project               | Annexure C                                                                                                                                                            |

Principal Investigator

*Dr. S. D. Mishra*  
Principal Investigator  
Co-Investigator  
UGC Major Research Project  
MSW Dept. SPU, V.V. Nagar

Registrar/Principal

*RH Rajput*  
Registrar  
Sardar Patel University  
Vallabh Vidyanagar



## **Annexure – A (i) Objective**

### **Objectives:**

The broad objective of the present study is to understand the opinion of urban people towards declining sex ratio in worst performance cities of Gujarat State. The recent data release of Census 2011 clearly mentioned that the male outnumber female in certain parts of Gujarat and female declination found in Mehasana, Gandhinagar and Surat. So present study is carried out in urban areas and tried to understand the opinion of the people in these districts.

The objectives are:

- 1. Assess the various socio-cultural, economic, demographic, culture and status of girl child, gender discrimination, adverse child sex ratio, sex determination and female foeticide and other factors contributing to the declining sex ratio with reference to juvenile sex ratio*
- 2. Identify strategies and suggest different measure to curb the menace of the declining sex ratio and thereby to understand the impact on the adverse child sex ratio.*
- 3. Review other gender related laws and policies including the dowry prohibitions law, sexual assault amendments to IPC and the national population policy and schemes in order to propose and ways to strengthen implementation.*
- 4. Work upon spatial regression model with reference to socio-economic anthropological, cultural and geo graphical factors and behavioral changes and bring forth role of spatial processes.*

## **Annexure – A (ii) Whether Objective was achieved**

Whole study was planned out taking the objectives in mind. To support the objectives a detailed interview schedule were prepared. The broad purpose is to understand by taking account that In India, sex ratio is skewed in favour of males and has continued to rise and expand in various forms. This has drawn wide attention of policy makers and planners to reverse the trend to bring it back to parity.

Researcher has argued that the increasing number of abortions following sex determination tests that showed the foetus to be female is the single most important reason for the consistently declining child sex ratio in Gandhinagar Mehsana and Surat. The national sex ratio (females per 1,000 males) of the child population in the 0-6 age group registered a 13-point decline from 927 in 2001 to 914 in 2011<sup>2</sup>. Its lowest since independence and over the last two decades, it is surprisingly found that the rate of decline appears to have slowed down in urban areas compared to rural areas. Subramanian & Corsi reviewed in their study that insufficient socio-economic development in India does not necessarily explain the differential in female-to-male ratio of birth; a households with high education and wealth were found to have a concentration of an imbalanced sex ratio. One of the sub objectives was all covered and fulfilled that in developing state like Gujarat a gender based-selection to raise sons rather than daughters has attracted much attention for both humanitarian reasons as well as concern about the potential negative fallout of having high proportions of unmarried men. It is noteworthy that increasing son preference and neglect of daughters is occurring in a large number of states in India like Gujarat despite the rapid economic growth, rise in prosperity and progress in education, literacy, and health care.

#### **Annexure B (i) Achievements of the Project**

Presently study also advocate that skewed sex ratio is an issue of grave concern in India. Family and social pressure to produce a son are immense. Son preference is a major impediment to population stabilization as it makes couples opt for larger number of children in order to ensure at least one male child in the family. Indirect evidence on the role of prenatal sex determination and sex selective abortion has been explored by ruling out other factors influencing sex ratio at birth. (Toppo, Diwakar & Pal 2012). Increasing son preference and neglect of daughters is occurring in many states in India despite the advances made in education, literacy, health care, and income attainment. (Mitra) The study endorses the importance of contextual policy and advocacy measures to arrest the increasing trend of masculinity as it will affect population dynamics not only in the regional or national context but also in the broader spectrum of international arena (Siddhanta 2003)

Worryingly, the trend was far stronger in urban rather than rural areas, and among literate rather than illiterate women, exploding the myth that growing affluence and spread of basic

education alone will result in the erosion of gender bias. In fact, evidence suggests that the practice has been more prevalent in the educated people of higher socio-economic class. Prosperity ensures better infrastructure, more machines and more doctors to perform the tests. People use their money power to access clinics for sex-determination of foetuses, pay for the technology, and opt for female foeticide. Technological advances in pre-natal diagnostic techniques, which were intended solely to detect genetic abnormalities in the foetus, have been misused to determine the sex of the foetus and undergo sex-specific abortion. Since ancient times, the roots of discrimination after birth against females predominantly stretched out in the socio-cultural and religious practices of India. Unfortunately, with the advancement in medical technologies, discrimination before birth against female in the womb itself could become a cruel reality i.e. through the misuse of Pre-Natal Diagnostic Tests for the sake of female feticide.

The most disturbing aspect of the problem of adverse sex ratio at birth is that it takes a long incubation period of over two decades to manifest its peak symptoms of social crisis and the same duration will be required for normalcy after restoration of equality in sex ratio at birth. Thus, the problem has two major hurdles- first; the restoration of normalcy in sex ratio at birth in itself is a big challenge and second; maintaining the same for at least two decades of hostile social environment for girls. Therefore, there will be a major risk of reverting back to the same situation again. (Mitra 2008)

#### **Annexure B (ii) Contribution to the Society**

The process of data collection had been eye opener to many of department students. They understood the absolute social problems of Indian society. The project does help to establish as an issue of concern, the emphasis has shifted to research which prima facie role is to address adverse child sex ratio and ensure effective nuance communication. It is a big challenge to monitor the implementation - at national, state and district levels - where the Ministry of Health and Family Welfare is active. Massive awareness campaigns, laws to improve gender equity, countering child marriage, sensitization of the judiciary and working with civil society and faith based organizations are some of the activities undertaken. However, only a total of 875 cases have been prosecuted out of 42,374 registered; 291 cases

have been decided and 82 convicted. In addition, 450 machines have been confiscated. A website and a toll free line have been established. On balance, however, it has not been that effective.

Recently Government of Gujarat has established the Abhyam Cell for protection of women and this novel approach helps to curb culprit action and women does seek help in uncalled situation. Such project helps to work on disseminate the awareness program in urban areas. Through students extension activities researcher had put the project in action. Numerous activities were carried out and several seminar and programme was drawn in educational organisation. Severe shortage of women in the adult population as a result of preference for son at birth could be associated with a marriage squeeze and accompanying consequences such as trafficking of girls. In fact, economic theory predicts that all else being equal, shortage of girls should actually increase the value or worth of girls socially and economically in the society. The value of the girls did increase in India and Gujarat albeit negatively. Shortage of women in India as well as Gujrat increased the demand for brides in the marriage market (Prakash & Vandalmanti). It has been found in the study that brides are shortage one of the prominent cast of Gujrat and thereby brides are hire from eastern part of india.

It has also been observed at the end of the study that in certain region where researcher developed and prepared students group for street play, seminar and conference. Above all, researcher herself went several organisations to conduct lecture on gender discrimination.

### Annexure C

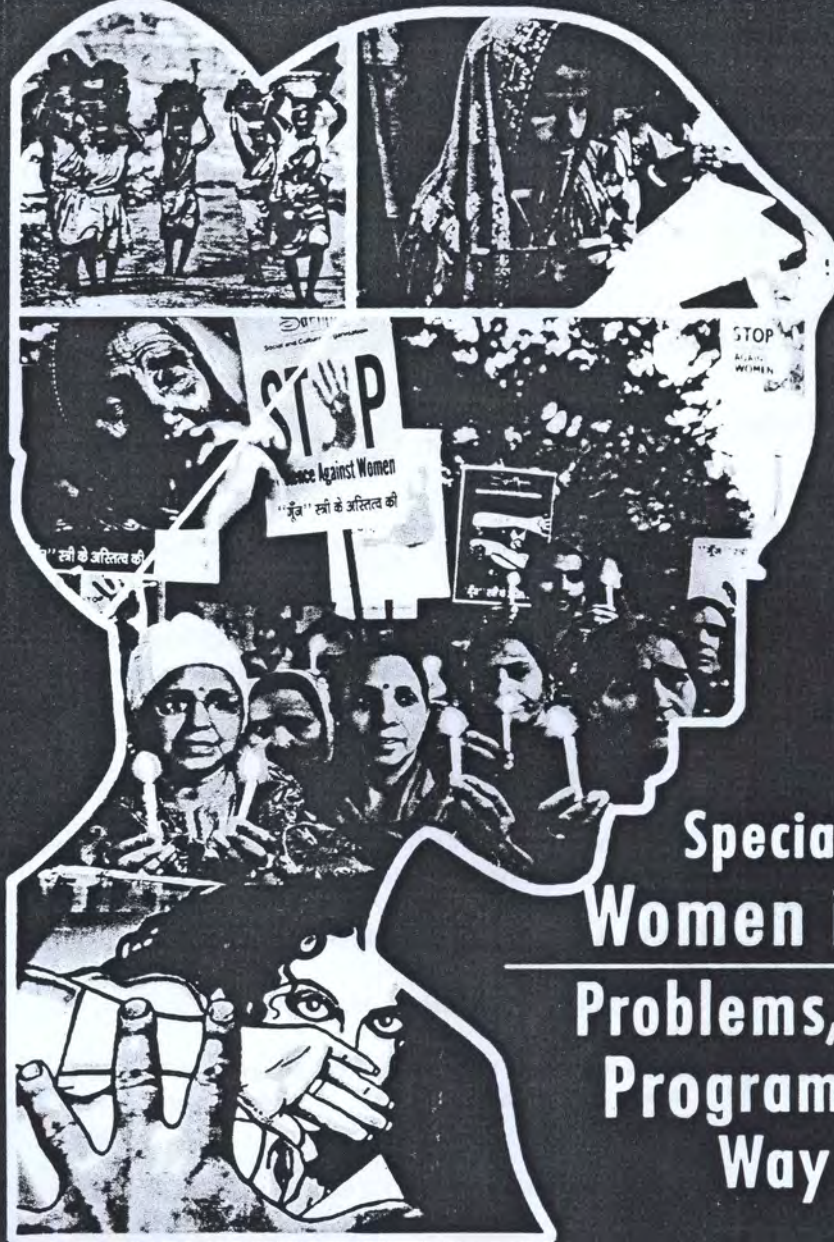
No. Of Publication out of the Project (Please attach reprints)

- Skewed Sex Ratio in Gujarat: A Matter of Concern: Adelaide Journal of Social Work Vol 1 Page no 172-182 May **2014** (ISSN 2349 4123)
- Way to Sex Ratio: A Downhill Journey, Journal of Social Vision. Volume 2 Issue 2 (1) July September **2015**, (ISSN 2015. 2349-0519)

# Social Vision

Volume : 2 Issue : 2(1) 2015  
July - September 2015 - 2016

(Journal of Social Sciences, Humanities and Management)



**Special Issue on  
Women in India  
Problems, Welfare  
Programmes and  
Way Forward**

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# Way to Sex Ratio: A Downhill Journey

**Dr. S. D. Mishra**

Faculty Member, Department of Social Work, Sardar Patel University, Vallabh Vidyanagar, Gujarat India.

## ABSTRACT

Gender based-selection to raise sons rather than daughters has attracted much attention for both humanitarian reasons as well as concern about the potential negative fallout of having high proportions of unmarried men. The Census Report 2011 strikingly mentioned the decline trends of child sex ratio in India which have been mammoth outliers in level of sex selection in past two decades in several states. Son can continue the religious rituals, family lineage and inherit family wealth preference tradition or culture leads to unevenness of child sex ratio in India. The present paper is largely focused on existing secondary level research, it includes a brief picture of overall trends with the help of a number of tables, trends over time, at the level of different states, both urban and rural are provided.

**Keywords:** *Gender, Sex Ratio, Sex Selection, Son preference*

## Background

Amartya Sen set off a debate in development economics when he estimated that there are 100 million 'missing women' in the world, referring to the magnitude of female survival disadvantage due to unequal treatment in the intra-household allocation of survival-related commodities. India has the dubious distinction of having the largest share of 'missing women' in the world along with China. Kishwar (2011) described "the sick culture of preferring sons". Author argued that the increasing number of abortions following sex determination tests that showed the foetus to be female is the single most important reason for the consistently declining child sex ratio in India. The national sex ratio (females per 1,000 males) of the child population in the 0-6 age group registered a 13 point decline from 927 in 2001 to 914 in 2011. It's lowest since independence and over the last two decades and it is surprisingly found that the rate of decline appears to have slowed down in urban areas compared to rural areas. Subramanian & Corsi (2011) reviewed that the insufficient socio-economic development in India does not necessarily explain the differential in female-to-male ratio of birth; a households with high education and wealth were found to have a concentration of an imbalanced sex ratio.

Gender based-selection to raise sons rather than daughters has attracted much attention for both humanitarian reasons as well as concern about the potential

negative fallout of having high proportions of unmarried men. While sex-selection is practiced in several countries, the phenomenon raises the greatest concern in India. With huge populations, India account for the overwhelming majority of "missing girls". Given the size of populations, it will also be difficult for India in future to import enough brides to meet the shortfall (Zhen *et.al* 2013)

India is a country of striking male and female diversity wherein male outnumber females. Since the first census of British India in 1872 there have been discussion concerning the issues of female deficit. The report release of the Census, 2011 in India reinforce debate among researcher and policy makers about the declining child sex ratio (0-6 years). Declining Child Sex Ratio has largely effect the socio-economic and cultural patterns of modern Indian society.

The Census Report 2011 strikingly mentioned the decline trends of child sex ratio in India which have been mammoth outliers in level of sex selection in past two decades in several states. Son can continue the religious rituals, family lineage and inherit family wealth preference tradition or culture leads to unevenness of child sex ratio in India. It is noteworthy that increasing son preference and neglect of daughters is occurring in a large number of states in India despite the rapid economic growth, rise in prosperity and progress in education, literacy, and health care (Drez *et.al* 2013).

Gender imbalance cultivates and witnessed crimes against women in India. Girl abduction and illegal trafficking is a consequence of it. Blanchet clearly viewed that shortage of women has resulted in bride trafficking from states within India which enjoy excess supply of girls and also from neighbouring countries. Geetanjali in her book *Girl and Women Trafficking in India* has mentioned that India is ranked second in the US state department's list of the most concerned countries for human trafficking. It is estimated that roughly 500,000 girls under the age of 18 are victims of trafficking in India every year. The present paper is largely focused on existing secondary level research; it includes a brief picture of overall trends with the help of a number of Tables in the Appendix. Trends over time, at the level of different states, both urban and rural are provided

### **Status of Sex Ratio of India and World: A Comparison**

The rapid masculinisation of India's child population during the last two decades runs parallel to the trends observed elsewhere in Asia. The circumstances of India's recent rise in juvenile sex ratio are however complex, because of the combination of a rapid improvement in female life expectancy which caught up recently with male life expectancy- and of a significant degradation of the child sex ratio during the last decades. While the sex ratio of the whole population has remained almost stable since

1971, oscillating between 107 and 108 men per 100 women, child sex ratio has risen from less than 98 boys for 100 girls below 5 years before 1941 to more than 107 today. These conflicting trends have been the source of confusion among observers unfamiliar with India's demographic history and have contributed to a serious delay in the analysis of rising juvenile masculinity. Not only in India, certain other Asian cultures, such as those, in Pakistan, South Korea, and both Mainland China and Taiwan, have placed great value on producing a male heir.

**Table 1 Sex Ratio of Selected Countries**

| Sr. No | Country                  | Sex Ratio (Females against 1000 males) |
|--------|--------------------------|----------------------------------------|
| 1      | World                    | 984                                    |
| 2      | Russian Federation       | 1165                                   |
| 3      | France                   | 1056                                   |
| 4      | Japan                    | 1054                                   |
| 5      | Germany                  | 1038                                   |
| 6      | United Kingdom           | 1037                                   |
| 7      | Brazil                   | 1031                                   |
| 8      | South Africa             | 1028                                   |
| 9      | United States of America | 1026                                   |
| 10     | Republic of Korea        | 1020                                   |
| 11     | Australia                | 1011                                   |
| 12     | Ethiopia                 | 1010                                   |
| 13     | Indonesia                | 1003                                   |
| 14     | Nigeria                  | 995                                    |
| 15     | Malaysia                 | 970                                    |
| 16     | Iran                     | 968                                    |
| 17     | India                    | 940*                                   |
| 18     | China                    | 927                                    |
| 19     | Saudi Arabia             | 828                                    |

Source: *World Population Prospects (midyear estimates), 2010 revision, Sex and age United Nation.)(\* Sex ratio as per Provisional Result, Census 2011)*

It is not natural for an ordinary person to believe that males and females in the population balance each other. It has been estimated that around the year 2010, the world had 984 females against 1000 males. Table 1 presented the global sex ratio in selected countries and it is evident from this statement that the sex ratio in India, Indonesia, Russian Federation, France, Republic of Korea, Australia, Japan and Malaysia has always remained above unity for the last half a century. It is interesting to note that in developing countries like Nigeria, Malaysia is slightly better than most populous countries that are India and China.

Coale (1991) also drew attention to unusually high sex ratios at birth and high mortality rates relative to males, especially in the early years of life and for

daughters with elder sisters. To give a rough approximation of the numerical impact of excessive female mortality, he also estimated the ratio of males to females in selected populations that would exist in the absence of discriminatory treatment of females, and thus the total number of 'missing' females. For the populations of China, India, Pakistan, Bangladesh, Nepal, West Asia, and Egypt, he calculated the total number of missing females to be about 60 million. Given this, it is perhaps more apt a problem of missing girls than missing females. Thus, the most serious contemporary concern is the elevated female death rates due to gender discrimination, which offsets the natural lower mortality of females. Further he has argued that the high masculinity ratio in many Asian countries is traceable to this single cause. Croll (2002) raises the controversial question of why millions of girls do not appear to be surviving to adulthood in contemporary Asia. Thus, there is an urgent need to focus attention on daughter-discrimination, family planning, girlhood, children differentiated by their gendered value, their birth order and sibling configuration particularly in South Asia.

### Sex Ratio of India in comparison with Neighbouring Countries

The sex ratio of neighbouring countries is far better compared to India. The sex ratio of Indian population has always contemporary interest for demographers, social scientists, women's groups, research scholars, various planners and policy makers.

**Table 2: Status of Sex Ratio in comparison with Neighbouring Countries**

| Sr. No | Country    | Sex Ratio |
|--------|------------|-----------|
| 1      | Myanmar    | 1048      |
| 2      | Sri Lanka  | 1032      |
| 3      | Nepal      | 1014      |
| 4      | Bangladesh | 978       |
| 5      | Pakistan   | 942       |
| 6      | India      | 940       |

Source: *World Population Prospects (midyear estimates), 2010 revision, Sex and Age United Nation.* \* Sex ratio as per Provisional Result, Census 2011

Amartya Sen claimed that about 100 million women in the world are missing, referring to the number of females who had died as a result of unequal access to resources in parts of the developing world (Stephan Klasen, 1994; Klasen and Claudia, 2003). He produced such estimate by comparing the sex ratios in countries with large female deficits to the sex ratio prevailing in sub-Saharan Africa. Stephen and Claudia (2003) found that of number of missing women has increased in absolute terms to over 100 million. Regional analyses point to a better status for women in North Africa and West Asia, as compared to South Asia. Within South Asia, India now has the largest share of missing females in South Asia and next to China in the global comparison.

**Table 3: Selected Estimate of Missing Women**

|                           | Sen's Method |            | Coale's Method |            | Klasen's Method |            |
|---------------------------|--------------|------------|----------------|------------|-----------------|------------|
|                           | No.          | %          | No.            | %          | No.             | %          |
| <b>China</b>              | <b>49.9</b>  | <b>8.2</b> | <b>32.3</b>    | <b>5.3</b> | <b>40.9</b>     | <b>6.7</b> |
| Taiwan                    | 0.7          | 6.3        | 0.3            | 3.2        | 0.5             | 4.7        |
| South Korea               | 0.5          | 2.1        | 0.2            | 1.0        | 0.2             | 0.7        |
| <b>India</b>              | <b>42.6</b>  | <b>8.6</b> | <b>24.6</b>    | <b>5.0</b> | <b>39.1</b>     | <b>7.9</b> |
| <b>Pakistan</b>           | <b>6.0</b>   | <b>9.6</b> | <b>3.4</b>     | <b>5.5</b> | <b>4.9</b>      | <b>7.8</b> |
| <b>Bangladesh</b>         | <b>3.3</b>   | <b>5.2</b> | <b>1.0</b>     | <b>1.6</b> | <b>2.7</b>      | <b>4.2</b> |
| <b>Nepal</b>              | <b>0.1</b>   | <b>1.0</b> | <b>0.3</b>     | <b>2.4</b> | <b>0.1</b>      | <b>0.5</b> |
| Sri Lanka                 | 0.2          | 1.9        | 0.1            | 1.4        | 0.0             | 0.0        |
| <b>West Asia</b>          | <b>5.3</b>   | <b>5.7</b> | <b>1.8</b>     | <b>2.0</b> | <b>3.8</b>      | <b>4.2</b> |
| Turkey                    | 1.1          | 4.0        | 0.2            | 0.7        | 0.7             | 2.4        |
| Syria                     | 0.4          | 6.1        | 0.1            | 1.6        | 0.2             | 3.1        |
| Afghanistan               | 0.7          | 6.8        | 0.5            | 4.4        | 1.0             | 9.3        |
| Iran                      | 1.4          | 4.7        | 0.3            | 0.9        | 1.1             | 3.7        |
| <b>Egypt</b>              | <b>1.8</b>   | <b>6.2</b> | <b>0.7</b>     | <b>2.4</b> | <b>1.3</b>      | <b>4.5</b> |
| Algeria                   | 0.5          | 3.1        | 0.1            | 0.8        | 0.2             | 1.2        |
| Tunisia                   | 0.2          | 3.5        | 0.0            | 0.0        | 0.1             | 2.1        |
| Sub-Saharan Africa        | 0.0          | 0.0        | 3.6            | 1.2        | 5.5             | 1.8        |
| <b>Total (Comparable)</b> | <b>108.9</b> | <b>8.0</b> | <b>63.6</b>    | <b>4.7</b> | <b>92.8</b>     | <b>6.8</b> |
| Total (World)             | 113.0        | 6.4        | 60.6           | 3.4        | 101.3           | 5.7        |

*Source: Chakraborty and Sinha - 2006*

The proportion of girls "missing" has risen sharply in many parts of East and South Asia in recent decades, raising much concern amongst researchers and policy-makers. There are obvious moral and human concerns generated by such extreme manifestation of gender inequity. The phenomenon also creates the potential for social problems following from shortages of women to marry for men who face life and old age without a wife or children; for women bought as wives from distant areas with different cultures and languages; and in extreme cases violence against women as some seek to kidnap and sell them to men desperate to find a wife.<sup>6</sup>

### **Declining Sex Ratio in India: A Matter of Grave Concern**

The British first discovered the practice of female infanticide in 1798. There had been discussions concerning the issue of female deficit ever since the first Census of British India in 1872. The skewed sex ratios in the early census periods were attributed to under-count of women; however, in recent periods it is traced to the masculine sex ratio at birth.

**Table 4: Trends of Sex Ratio in India**

| Sr. No | Year | Sex Ratio<br>(Female Ratio per 1, 000 Males) |
|--------|------|----------------------------------------------|
| 1      | 1901 | 972                                          |
| 2      | 1911 | 964                                          |
| 3      | 1921 | 955                                          |
| 4      | 1931 | 950                                          |
| 5      | 1941 | 945                                          |
| 6      | 1951 | 946                                          |
| 7      | 1961 | 941                                          |
| 8      | 1971 | 930                                          |
| 9      | 1981 | 934                                          |
| 10     | 1991 | 927                                          |
| 11     | 2001 | 933                                          |
| 12     | 2011 | 940                                          |

Source: Source: Primary Census Abstract, 2011

According to the Census of India, 2011, the sex ratio stands at 940 for the country as a whole. This is a welcome improvement from the 2001 Census, which had recorded 933 females for every 1000 males Table 4 presented the trend in sex ratio in India since 1901. It has been observed that the sex ratio in the country has always remained unfavourable to females. The sex ratio at the beginning of the twentieth century was 972 and thereafter showed continuous decline until 1941. In 1951 there was a marginal increase of one point, but thereafter it again dropped for two consecutive decades to reach 930 in 1971. In fact, between 1961-71, the country saw the sharpest decline of 11 points in the sex ratio. Thereafter, it has fluctuated marginally around 930 in successive censuses.

Visaria's a pioneering study of "sex ratios of the population of India" (1971), which convincingly established the fact that the low female-male ratio (FMR) is mainly due to the sex differentials in mortality. He argued that the contributions of migration, under enumeration of females and sex ratios at birth are having only a marginal influence Miller in her study "The Endangered Sex" (1981) emphasized the socio-cultural discrimination against female children as the main reason for female mortality. Miller called this as "extended infanticide" where life-sustaining inputs like food, nutrition, health care were denied to girl child. There is a great deal of evidence of girls being given less food and health care than boys, especially in north India. Girls are breast fed for shorter periods; they are taken to fewer medical consultations, and often very late, or not at all, to hospitals (Dreze and Sen 1995). Sex ratio is a direct indicator of women's status and welfare. The sex ratio changes are usually analyzed in a framework that underlies (relatively) greater deprivation and

discrimination of females, as opposed to males, in the south Asian cultural set-up. The major determinants, of numerical imbalances, revolve around factors such as under enumeration of women, fertility, mortality and migration.

### Causal Factors of Declination of Sex Ratio

For practice of sex selections there are several claims emerged and a combination of factors namely; the urge to have a son, acceptance of the small family norm as a result of the fertility transition, access to pre-natal sex determination tests and abortion has worsened the situation relating for the girl child (Bose, 2002; Dasgupta, 2005; George and Dahiya, 1998; Goodkind, 1999; Ganatra, et al., 2001; Bhat, 2002; and Mallik, 2003). Retherford and Roy's (2003) findings also reveal that if a son is already present in the family the sex ratio has a tendency to become balanced. To fulfil the desire of a son pre birth interventions are being practiced, resulting in reduced female births.

**Table 5: Sex Ratio for Second Orders Birth**

| If first birth was female | Total | Rural | Urban | If first birth was Male | Total | Rural | Urban |
|---------------------------|-------|-------|-------|-------------------------|-------|-------|-------|
| All India                 | 759   | 761   | 751   | All India               | 1103  | 1100  | 1113  |
| Delhi                     | 631   | 653   | 627   | Delhi                   | 1057  | 1445  | 973   |
| Gujarat                   | 670   | 672   | 659   | Gujarat                 | 1209  | 1209  | 1208  |
| Haryana                   | 667   | 683   | 614   | Haryana                 | 968   | 948   | 1050  |
| Himachal                  | 710   | 716   | 688   | Himachal                | 975   | 1000  | 892   |
| Maharashtra               | 749   | 736   | 782   | Maharashtra             | 1168  | 1199  | 1101  |
| Punjab                    | 614   | 631   | 560   | Punjab                  | 1003  | 971   | 1102  |
| Rajasthan                 | 674   | 695   | 527   | Rajasthan               | 1192  | 1174  | 1324  |

Source: Jha, Prabhat et al., 2006, 367:211-18.

As presented in Table 5, and as Bora (2012) both in rural and urban India especially in the north western states, if the first birth is a girl child, the sex ratio of the second birth largely worsens against girls. There is a striking deficit of girls if the first birth is a girl; couples face imbalance in the sex ratio of their children. If the first birth is a male child, the sex ratio of the second birth for the entire north-western states is in favour of females. People are pressurized to bear sons while limiting the number of daughters in order to conserve scarce household resources. A son is still the man who will carry on the family name and take care of old parents. With such prejudices, the couples are forced to use sex selective technology; there is a great deal of social demand for a son (Bora 2000, Dasgupta, 2005; Sen, 1990; Coale, 1991; Miller, 1981; Hsu, 1948).

**Declination of Sex Ratio due to Population Policies.** The NFHS-2 data reveals that almost half (47 per cent) of ever married women in India consider two to be the ideal

number of children and 72 per cent consider two or three to be ideal. This shows that there is a widespread acceptance of a small family norm with a strong son preference. Das Gupta (1987) has shown that in this north Indian village, the desire for sons falls more slowly (20 per cent) than for daughters (35 per cent) amongst educated mothers as compared with other women, because they want a smaller family. There is a greater son preference evident among the educated women. Overall, the government population policy pursued acceptance of small family norm but did not take any initiative to reduce a son preference, and this policy had an impact on the incidence of foeticide. Mohan Rao has argued the "imposition of the two-child norm, and the disincentives proposed would mean that the majority of the deprived populations would bear the brunt of the state's withdrawal of ameliorative measures, pitifully inadequate as they are" (Rao 2008).

**Sex Ratio at Birth.** Kulkarni also estimated that during the 25 years since 1981, nearly 11 million sex- selective abortions were performed in India. This amounted to 3.6 per cent of female births or 1.7 per cent of live births. There have also been other estimates of sex-selective abortions in India. Based on the SFMS data, Jha et al. (2006), for example, offered an estimate of 10 million sex-selective abortions over the twenty year period 1986- 2005. Regardless of which estimate one accepts as the most likely to be correct, it is clear that the number of sex-selective abortions in India has been quite high, though, as we shall see, not as high as in China.

Evidence shows that the practice of sex-selective abortions is more prevalent in urban areas and amongst the well educated women. Sex ratio at birth is also found to increase with parity or birth order and vary substantially by the sex composition of previous children. As already noted, Jha et al. (2006) in their study based on SFMS data found an SRB of 111.2. However, the sex ratio for the second birth when the preceding child was a girl was 131.75; the sex ratio for the third birth when previous two children were girls was 139.08. By contrast, the sex ratios for second or third births if previous children were boys were about equal (90.74 and 85.03 respectively).

There are large regional variations in India's sex composition and SRBs.<sup>26</sup> The broad picture is that the major problem of sex-selective abortions is to be found in the northern- western region of India (mainly in the states of Punjab, Haryana, Delhi, Gujarat, Uttar Pradesh, and Rajasthan). These states are also ones which, in general, have higher female than male mortality during childhood. The explanations for these regional differences have usually been in terms of differing cultural and social traditions. Social standing of women has historically been much better in south India and also in much of the eastern region.

**Dowry: Foundation for Sex Selection.** "Like a black shadow in the wake of dowry demands, is the spread of sex selection" (Karat and George, *ibid*). In India, the practice of dowry adds to the financial burden of having daughters. The practice of dowry would appear to have been of great significance in the Indian context. It is reportedly one of the main reasons for son preference in the country.<sup>38</sup> In reality, the practice is more like a groom purchase – in general, the more educated and the wealthier the groom, the higher the dowry demanded. The practice, which at one time used to be confined mainly to North India and among the upper castes, has now become widespread across India, despite the government enacting legislation banning the practice.

### Concluding Remark and Way Forward

It is clearly indicated that declining in sex ratio demonstrated the status of women in India and reinforce the debate of biological determinant. To enhance gender equality and reduce sex selections there have been several types of policies. These include access to employment, women rights in property and encourage of gender equality. The ban on sex selection technique has been taken as a great concern and stringent law has been applied so far. The strong advocacy has been carried out through several print and mass media so as to encourage parents to perceived girl as valuable as boys. In sum, a permanent shift away from son preference there must be rigorous act to be implemented through mass media, community engagement practice and stringent action towards sex selection technology. There is an urgent calls needed in regards to sex selection as in long term implication on uneven sex ratio which leads to marriage squeeze. Consequently, social evils like women trafficking and child marriage may be observed in future. Hence due to this India has to face several challenges with reference to socio cultural and demographic.

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# ADELAIDE JOURNAL OF SOCIAL WORK

2014-15

①

Volume : 1

Issue : 1

Year - 2014

2014-15 National ②



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# ADELAIDE JOURNAL OF SOCIAL WORK

Volume: 1, Issue: 1  
Year - 2014 ISSN 2349-4123

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# Skewed Sex Ratio in Gujarat: A Matter of Concern

\* S.D. Mishra

## Abstract

Mainly two types of family arrangement can be seen in the world a Male dominated and Female dominated. As a matter of fact these two arrangements are neither exclusively supplementary to each other nor contrary to each other. The family arrangement of any region is dependent on socio economic condition and religious customs of the people dwelling in the respective area. Effects of all these factors on the entire country have proved to be more effective in the eastern countries than in western countries. Generally sex ratio is determined against number of females per 1000 males. Comparison of males and females of all age groups has shown less percentage of female, per 1000 males. The deficit of women in India's population has been documented ever since the first decennial enumeration of people was conducted in the British-occupied parts of India in the late nineteenth Century. Over the span of more than 100 years, the deficit of women has progressively increased as evident from the sex ratio of the population; the number of women per 1000 men more or less steadily declined from 972 in 1901 to 940 in 2011.. Along with rise in population size, there is evidence of masculinity in sex ratio in general as well as in child sex ratio in particular. The present article tries to elaborate gender composition in India and Gujarat and Child Sex Ratio in particular. National and State level analysis has been discussed and Regional diversity within and across in India is tried to figure out. Author also tried to understand the worsening conditions of the girl child and map out the adverse child sex ratio in India and Gujarat as well.

**Key words:** Sex Ratio, Adverse Child Sex Ratio, India and Gujarat.

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## Introduction

India is a country of striking male and female diversity wherein male outnumber females. Declining or change in Sex Ratio and Child Sex Ratio largely effect the socio-economic and cultural patterns of modern Indian society. Since the first census of British India in 1872 there have been discussion concerning the issues of female deficit. In Economic Times 2011 the Madhu Kishwar described "the sick culture of preferring sons". She argued that the increasing number of abortions following sex determination tests that showed the foetus to be female is the single most important reason for the consistently declining child sex ratio (CSR) in India. The national sex ratio (females per 1,000 males) of the child population in the 0-6 age group registered a 13-point decline from 927 in 2001 to 914 in 2011 (EPW 2011).

Amartya Sen set off a debate in development economics when he estimated that there are 100 million of missing women in the world, referring to the magnitude of female survival disadvantage due to unequal treatment in the intra household allocation of survival related commodities. It is important to analyse the processes by which they went missing, irrespective of the debate whether the excess death due to unequal access to the intra household resources and sex selective abortion should be treated ethically equivalent.

Ansley Coale (1991) also drew attention to unusually high sex ratios at birth and high female mortality rates relative to males, especially in the early years of life and for daughters with elder sisters. To give a rough approximation of the numerical impact of excessive female mortality, he also estimated the ratio of males to females in selected populations that would exist in the absence of discriminatory treatment of females, and thus the total number of 'missing' females. For the populations of China, India, Pakistan, Bangladesh, Nepal, West Asia, and Egypt, he calculated the total number of missing females to be about 60 million. Given this, it is perhaps more apt a problem of missing girls than missing females. Thus, the most serious contemporary concern is the elevated female death rates due to gender discrimination, which offsets the natural lower mortality of females. Coale has argued that the high masculinity ratio in many Asian countries is traceable to this single cause. Moreover, the high female death rates occur mainly in the first five years of life.

Croll (2002) raises the controversial question of why millions of girls do not appear to be surviving to adulthood in contemporary Asia. Thus, there is an urgent need to focus attention on daughter-discrimination, family planning, girlhood, children differentiated by their gendered value, their birth order and sibling configuration particularly in South Asia.

### **Purpose and Essence of the Study**

Sex ratio is defined as the number of females per 1000 males in the population and is an important social indicator to measure the extent of prevailing equity between males and females in a society at a given point of time. It may be noted that the sex ratio is expected to be almost at parity in nature. According to experts sex differential in mortality, sex selective outmigration, skewed sex ratio at birth are the major contributory factors that influence changes in sex ratio. In India, sex ratio is skewed in favour of males and has continued to rise and expand in various forms. This has drawn wide attention of policy makers and planners to reverse the trend to bring it back to parity.

The present study is primarily based on secondary data from decennial Census of India Reports, Government of India covering sex ratio and juvenile sex ratio in India compared to other countries, state wise trend, regional variation and issues and challenges with reference to Child sex ratio. Further author tried to map out the adverse child sex ratio in India and Gujarat state.

### **Data Speaks: Status of Sex Ratio in India and Gujarat**

India is one of the few countries in the world where males outnumber females. The sex ratio of Indian population in the century has shown a secular-declining trend except some marginal increases in the censuses of 1991, 2001 and 2011. Changes in sex ratio largely reflect the underlying socio-economic and cultural patterns of a society in different ways. It is an important social indicator to measure the prevailing equity between males and females in a society at a given point of time. There have been discussions concerning the issue of female deficit ever since the first census of British India in 1872. In fact, one scholar considers the female deficit of about 5 million and speculates the reasons behind this, based on the findings of 1881 census (Saraswathi, 1888).

## (A) Sex Ratio

Skewed Sex Ratio/175

The sex ratio at birth is slightly favourable to boys. This means that more boys are born as compared to girls. This is a natural phenomenon. The sex ratio at birth is usually between 940-950 girls per 1000 boys. The child sex ratio is calculated as number of girls per 1000 boys in the 0-6 years age group.

**Tabel 1. Number of females per 1000 males for all age group since 1961 till 2011**

| Sr. N | Year  | Gujarat | India |
|-------|-------|---------|-------|
| 1     | 1961  | 940     | 941   |
| 2     | 1971' | 934     | 930   |
| 3     | 1981  | 942     | 933   |
| 4     | 1991  | 934     | 927   |
| 5     | 2001  | 921     | 933   |
| 6     | 2011  | 918     | 940   |

*Source: Primary Census Abstract, 2011*

From the above data it can be analysed that since 1971 to 1991 the sex ration of all the age group compared to India is higher than the corresponding ratio of India. But figures are quiet disappointing looking to the data of 2001 and 2011. Gujarat sex ratio is considerably lower than India.

## (B) Child Sex Ratio

The overall sex ratio — the number of females per 1,000 males — is falling across the world. While the global sex ratio was 986 females per 1,000 males in 2010, it reduced to 984 in 2011..India's child sex ratio dipped tremendously — the worst since the country's independence but the overall sex ratio of the country has increased only marginally – from 933 (2001) to 940 (2011). However, according to the Registrar General of India's (RGI) records, some big countries across the globe have reported a sharp decline in the number of women. China is a case in point. The country's sex ratio in 2001 was 944, and

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it fell to 926 in 2011. Bhutan's sex ratio saw a major drop: from 919 in 2001 to 897 in 2011. America's sex ratio also fell from 1,029 in 2001 to 1,025 in 2011. Indonesia's overall sex ratio fell from 1,004 (2001) to 988 (2011), while Nigeria's sex ratio stood at 987 in 2011 as against 1,016 in 2001. Union health ministry officials said, "India's child sex ratio (0-6 years) has declined from 927 in 2001 to 914 in 2011. As per Census 2011, the urban child sex ratio is 902 as compared to 919 in rural areas. However, while some countries have seen a dip in sex ratio, some countries have also recorded an increase in their overall sex ratio." According to RGI's records, some countries also saw an increase in the sex ratio. For instance, in Bangladesh, the sex ratio was 958 in 2001, which increased to 978 in 2011. Japan's sex ratio improved from 1,041 (2001) to 1055 (2011), Russia's improved from 1,140 (2001) to 1,167 (2011) and Pakistan's from 938 (2001) to 943 (2011). Brazil too saw an increase – from 1,025 (2001) to 1,042 (2011). While Sri Lanka's sex ratio stood at 1,034 in 2011 as compared to 1,010 in 2001. Nepal's sex ratio also improved from 1,005 females per 1,000 males in 2001 to 1,014 in 2011, and Myanmar's was 1,011 (2001) as against 1,048 (2011).

**Table 2 . Comparison of Gujarat Child Sex Ratio and India**

| Sr. No | Year    | Gujarat | India |
|--------|---------|---------|-------|
| 1      | 1961(*) | 971     | 962   |
| 2      | 1971(*) | 969     | 979   |
| 3      | 1981@   | 947     | 962   |
| 4      | 1991@   | 928     | 945   |
| 5      | 2001@   | 883     | 927   |
| 6      | 2011@   | 890     | 914   |

(\*) 0-4 years age group (@) 0-6 years age group

*Source: Primary Census Abstract, 2011*

It can be seen that child sex ratio in Gujarat is lower compared to India. On the base of research studies and literature it can be view that in Gujarat particularly during last four decades there must be an expectation of male child stronger in comparison to that of female child among married couples.

Table 3. Distribution of Trends in Juvenile Sex- Ratio (0-6) of India, Gujarat

| Sr No. | Area limit | 1991 | 2001 | 2011 | Decade change 1991- 2001 | Decade change 2001-2011 |
|--------|------------|------|------|------|--------------------------|-------------------------|
| 1.     | India      | 945  | 927  | 914  | -18                      | -13                     |
| 2.     | Gujarat    | 928  | 883  | 890  | -45                      | 7                       |

Source: Primary Census Abstract, 2011

Declining trend in the juvenile sex ratio of India is seen as decadal change resulted 18 less than the year 1991's juvenile sex ratio of 945 in year 2001. Even the downfall was witnessed in Gujarat's decadal of 1991-2001 by the slip down of 45 in 2001 from 928 of 2001, but little improvement took place in the Gujarat's decadal period of 2001-2011's juvenile sex ratio in in the particular period with the ratio's movement to 886 which was 883 in 2001.

Table 4. Regional Comparison of Child Sex Ratio and Literacy Rate

| Sr No. | Year    | Child Sex Ratio |       |       | Literacy Rate |       |       |
|--------|---------|-----------------|-------|-------|---------------|-------|-------|
|        |         | Rural           | Urban | Total | Rural         | Urban | Total |
| 1      | 1961(*) | 978             | 948   | 971   | 24.09         | 48.77 | 30.45 |
| 2      | 1971(*) | 963             | 950   | 869   | 28.33         | 54.90 | 35.78 |
| 3      | 1981@   | 953             | 933   | 947   | 36.20         | 60.31 | 43.70 |
| 4      | 1991@   | 936             | 909   | 928   | 53.09         | 76.59 | 61.29 |
| 5      | 2001@   | 905             | 827   | 878   | 61.29         | 81.24 | 69.14 |
| 6      | 2011@   | 914             | 852   | 890   | 73.00         | 87.58 | 79.31 |

(\*) 0-4 years age group (@) 0-6 years age group

Source: Primary Census Abstract, 2011

It is observed from the above Table that compared to rural areas urban areas have considerable lower sex ratio. Looking to literacy level it is found that in urban areas is comparatively higher than rural areas. According to it transpires that more the literacy rate in the area there is more expectation of male child in that area. Thus there is a negative correlation coefficient between literacy rate and child sex ratio. Expecting of male child found more in urban area compared to rural areas.

**Table 5. Juvenile Sex ratio of Best and Worst Performing Five Districts of Gujarat in 1991, 2001 and 2011**

| 1991                     |                           | 2001                     |                           | 2011                     |                           |
|--------------------------|---------------------------|--------------------------|---------------------------|--------------------------|---------------------------|
| Best Performing District | Worst Performing District | Best Performing District | Worst Performing District | Best Performing District | Worst Performing District |
| Dahod (1001)             | Gandhinagar (888)         | Dangs (974)              | Mahesana (801)            | Dang (964)               | Surat (835)               |
| Dang (999)               | Anand (896)               | Dahod (967)              | Gandhinagar (816)         | Tapi (953)               | Mahesana (842)            |
| Narmada (985)            | Ahmedabad (896)           | Tapi (951)               | Ahmedabad (835)           | Dahod (948)              | Gandhinagar (847)         |
| Valsad (976)             | Mahesana (899)            | Narmada (945)            | Anand (849)               | Narmada (941)            | Ahmedabad (857)           |
| Tapi (975)               | Kheda (900)               | Panchmahals (935)        | Rajkot (854)              | Panchmahals (932)        | Rajkot (862)              |

The data has also thrown up a shocker — the ratio has turned negative in Gujarat's tribal districts, where it was exceptionally high thus far. Surat, which is partially a tribal district, registered the worst decline of 24 points, from 859 to 835, compared to 2001 census.

Interestingly, Mehsana — the district with the worst child sex ratio of 801 in 2001 — has shown the maximum improvement of 41 points and stands at 842

Surat, which has a majority tribal population, recorded the greatest decline — 24 points — as CSR slipped from 859 to 834. This was followed by tribal-dominated Dahod, where the CSR has slipped from 967 to 948, an alarming decline of 19 points. Dang, another largely tribal district logged a decline of 10 points, with its CSR going from 974 in 2001 to 964 in 2011. The districts which had shamed the state with highly skewed sex ratios in 2001 showed improvement. Mehsana is followed by Anand, which improved its child sex ratio by 35 points, Gandhinagar by 31 points, Patan (25), Sabarkantha (24), Ahmedabad (22) and Kheda (20).

Urban areas of the state improved their sex ratios more than rural areas. However sex ratios in rural areas are considerably higher than urban areas.

**Table 6. State/Union Territory which improved Child Sex Ratio between 2001 and 2011- A Progress Report\**

| State         | 2001 | 2011 | Improvement |
|---------------|------|------|-------------|
| Punjab        | 798  | 846  | 48          |
| Chandigarh    | 845  | 880  | 35          |
| Haryana       | 819  | 834  | 15          |
| Himachal      | 896  | 909  | 13          |
| Arunachal     | 964  | 972  | 12          |
| A & N Islands | 957  | 968  | 11          |
| Gujarat       | 883  | 890  | 7           |
| Mizoram       | 964  | 970  | 6           |
| Goa           | 938  | 942  | 4           |
| Kerala        | 960  | 964  | 4           |

**Source :** Times of India, 2013

While the country's child sex ratio in the 0-6 age group dropped by eight points in the past decade, Gujarat's numbers improved by seven points — from 883

girls for every 1,000 boys to 890 girls in 2001 to 890 in 2011. This has been revealed by the final data of the Census 2011 But it is still not time to uncork the champagne.

Gujarat only 's child marginally sex ratio improved in the past decade even as other states have taken bigger strides towards saving their daughters. An increase of just seven points shows that the state has a long way to go before it can claim to have won the war against female feticide. The Gujarat government should crack down on clinics that unabashedly continue with sex determination. Some other states are doing a much better job of saving their daughters. Like Punjab, this posted an impressive improvement of 48 points after being one of the worst states a decade ago. The figures show that of the 35 states and Union Territories (UT), only 13 have shown improvement in their child sex ratio, while 22 registered a decline. The all-India child sex ratio went down from 927 to 919 points during the period.

### **Way Ahead: Role of Professional Social Worker**

Present article clearly pointed that discrimination against daughters as being the mirror image of son preference. The studies also support the idea that the existence of a strong son preference is indicative of greater discrimination against daughters. The Juvenile Sex Ratio (number of female children per 1000 male children in the age group of 0-6 years) attempts to bring out the recent changes in our society in its attitudes and outlook towards the girl child. It is a broad indicator, which reveals the ground realities that exist in fabric of the society. Moreover, the Juvenile Sex Ratio is a powerful index to examine the social response on female children. Present sex composition of child population determines the future vital events such as marriage rate, labour force, age structure, birth and deaths, migration, and replacement etc. Therefore deficit in girl child population, leads to serious demographic imbalance and adverse social consequences. However, in recent decades, the drastic decline in Juvenile Sex Ratio is an issue of grave concern in Gujarat. Therefore, efforts are needed to solve the issue thereby create equal regard and affection for the girl child. Otherwise, the child population will become skewed leading to a host of several societal problems.

(12)

Role of Social worker here is to take up the field action project on sex ratio and under beneath carry out a series of activities such as awareness about girls education, success stories of couple having a girl child, awareness and action program on girl child rights to create awareness among different stakeholders and community at large. Professional Social worker should involve social institution for the prevention of female foeticide or sex selection. Religious leader would be great help for the society to create awareness on declining child sex ration.

The analysis highlights that increasing trend of child sex ratio is gradually surfacing as a national crisis need to tackle with greater physical and fiscal resources to minimize the potential social loss owing to 'demographic consequence of marriage squeeze' which the country is bound to experience in coming days (siddhanta)

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## **Annexure D : Summary of the Findings**

It is clear that the sex ratio in the age group 0-6 has decreased at a much faster pace than the over-all sex ratio of the country after 1981. The decreasing sex ratio in this child population perhaps has a cascading effect on population over a period of time leading to diminishing sex ratio in the country. One thing is clear- the imbalance that has set in at this early age-group is difficult to be removed and would remain to haunt the population for a long time to come. To say the least, demographically the sex ratio of 914 of the population in the age group 0-6 does not appear to foretell well for the future of the country. Retherford and Roy (2003) find that reported son preference has declined in almost all states and socio-economic groups.

Further in 1981, the child sex ratio (for 0-6 year olds) was 104, increasing to 106 (1991), 108 (2001) and 109 (2011). As elsewhere, the conditional sex ratio (dependent on the sex of previous births) shows an increase in sex ratio, e.g. it is 130 if the two previous births are female. There are about 400,000 sex selective abortions per year, constituting 3.6 per cent of all female births. The trend from the latest census seems to be that the states with the highest imbalance have improved somewhat but also that the phenomenon seems to have spread to states that previously had less imbalance. With respect to the missing girls, the estimate is that 87 per cent of them are missing due to prenatal selection, and 13 per cent are missing due to postnatal selection.

Declining trend in the juvenile sex ratio of India is seen as decadal change resulted 18 less than the year 1991's juvenile sex ratio of 945 in year 2001. Even the downfall was witnessed in Gujarat's decadal of 1991-2001 by the slip down of 45 in 2001 from 928 of 2001, but little improvement took place in the Gujarat's decadal period of 2001-2011's juvenile sex ratio in the particular period with the ratio's movement to 886 which were 883 in 2001.

Gujarat only 's child marginally sex ratio improved in the past decade even as other states have taken bigger strides towards saving their daughters. An increase of just seven points shows that the state has a long way to go before it can claim to have won the war against female feticide. The Gujarat government should crack down on clinics that unabashedly continue with sex. The figures show that of the 35 states and Union Territories (UT), only 13 have shown improvement in their child sex ratio, while 22 registered a decline. The all-India

child sex ratio went down from 927 to 919 points during the period. The major findings of the study are been discussed:-

- There is no doubt that contemporary India is witnessing a highly gendered version of fertility decline – in north-west India, according to the findings of a co-authored study (John, Kaur, Palriwala, Raju and Sagar 2008), this veers from one to three children. Note therefore an unprecedented shift in son preference as well – extra sons are no longer wanted either. This cannot be mechanically read as reduced son preference. Rather, even the stated preference of one son and one daughter needs to be interpreted with care. Compare to Child Sex Ratio the overall sex ratio data doesn't portrait a affirmative image on world map. **Table 1**
- Decline in Child Sex Ratio is a matter of grave concern. The Child Sex ratio compared to Overall Sex Ratio declining faster. The overall sex ratio increased by seven points whereas child sex ratio decline by thirteen points. It is serious and sensitive indicators that precisely demonstrate the status of girl child. **Table 2**
- Vibhuti Patel has vividly described how popular amniocentesis became in cities like Bombay in the early 80s, with women having to book themselves for a test in major hospitals a month in advance; surveys by voluntary groups such as the Women's Centre revealed 10 tests per day across 6 hospitals and clinics (Patel 1988). An investigative study by Dr. Sanjeev Kulkarni of the Foundation for Research in Community Health in Bombay found that 42 out of 50 gynaecologists contacted, acknowledged performing sex determination tests for patients, most of whom came from middle and upper class backgrounds (Kulkarni 1986). Robin Jeffrey and Patricia Jeffrey similarly observed the entry of amniocentesis testing at some distance from metropolitan India, in Bijnor town in Uttar Pradesh (Jeffrey and Jeffrey 1983). **Table 3**
- Compared to rural areas urban areas considerable lower sex ratio. Looking to literacy level it is found that in urban areas is comparatively higher than rural areas. According to it transpires that more the literacy rate in the area there is more expectation of male child in that area. Thus there is a negative correlation coefficient between literacy rate and child sex ratio. Expecting of male child found more in urban area compared to rural areas. **Table 4**
- CSR reflects both pre-birth and post-birth discrimination against girls. Therefore, the sex ratio at birth is considered a more accurate and a refined indicator of the extent of

sex selection. Sex ratio at birth (SRB) is the number of girls born for every 1000 boys born and hence this ratio is not influenced by post birth factors such as mortality or neglect. The sex ratio at birth for the country for 2009-2011 is estimated at 906 girls born for every 1000 boys. This data is available as a three year moving average from the Sample Registration System. Though sex ratio at birth is a better indicator of the practice of gender-biased sex selection, the child sex ratio is still most widely quoted because of its easy availability at the district level and throughout the country. It is estimated that in India the practice of sex selection has resulted in the loss of approximately 5.7 lakh girls annually during the period 2001-2008. the declining trends of sex ratio at is clearly reveals the enormity of sex selective abortions in India. In a study conducted by the Christian Medical Association of India analysing the sex ratio at birth of hospitalized deliveries during 2000-2001 in Delhi indicated that if the first birth was a male child, the female to male sex ratio of the second birth was 959. But if the first birth was a female child, the sex ratio of the second birth was 542. Among the women who had delivered two daughters, the sex ratio of the third birth dropped to 219 (Literacy and Population Newsletter, 2005). These are clearly not chance occurrences. **Table 5**

- Child sex ratio in Gujarat is lower compared to India. This fact implies that in Gujarat particularly during last four decades there must be an expectation of male child stronger in comparison to that of female child among married couples. Difference in child sex ratio in 2011 and 2001 is seven points. Similarly if we look to urban and rural difference it has been found that urban stands eight points difference whereas in rural it stands fifteen points. Child sex ratio in Gujarat is lower compared to India. On the base of research studies and literature it can be view that in Gujarat particularly during last four decades there must be an expectation of male child stronger in comparison to that of female child among married couples
- Since 1971 to 1991 the sex ration of all the age group compared to India is higher than the corresponding ratio of India. But figures are quiet disappointing looking to the data of 2001 and 2011. Gujarat sex ratio is considerably lower than India. According to the Census of India, 2011, the sex ratio stands at 940 for the country as a whole. This is a welcome improvement from the 2001 Census, which had recorded 933 females for every 1000 males. In statement 4 presented the trend in sex ratio in India since 1901. It has been observed that the sex ratio in the country has

always remained unfavourable to females. The sex ratio at the beginning of the twentieth century was 972 and thereafter showed continuous decline until 1941. In 1951 there was a marginal increase of one point, but thereafter it again dropped for two consecutive decades to reach 930 in 1971. In fact, between 1961-71, the country saw the sharpest decline of 11 points in the sex ratio. Thereafter, it has fluctuated marginally around 930 in successive censuses. Visaria's a pioneering study of "sex ratios of the population of India" (1971), which convincingly established the fact that the low female-male ratio (FMR) is mainly due to the sex differentials in mortality. He argued that the contributions of migration, under enumeration of females and sex ratios at birth are having only a marginal influence. Miller in her study "The Endangered Sex" (1981) emphasized the socio-cultural discrimination against female children as the main reason for female mortality. Miller called this as "extended infanticide" where life-sustaining inputs like food, nutrition, health care were denied to girl child. There is a great deal of evidence of girls being given less food and health care than boys, especially in north India. Girls are breast fed for shorter periods; they are taken to fewer medical consultations, and often very late, or not at all, to hospitals (Dreze and Sen 1995). The data has also thrown up a shocker — the ratio has turned negative in Gujarat's tribal districts, where it was exceptionally high thus far. Surat, which is partially a tribal district, registered the worst decline of 24 points, from 859 to 835, compared to 2001 census. Interestingly, Mehsana — the district with the worst child sex ratio of 801 in 2001 — has shown the maximum improvement of 41 points and stands at 842. Surat, which has a majority tribal population, recorded the greatest decline — 24 points — as CSR slipped from 859 to 834. This was followed by tribal-dominated Dahod, where the CSR has slipped from 967 to 948, an alarming decline of 19 points. Dang, another largely tribal district logged a decline of 10 points, with its CSR going from 974 in 2001 to 964 in 2011. The districts which had shamed the state with highly skewed sex ratios in 2001 showed improvement. Mehsana is followed by Anand, which improved its child sex ratio by 35 points, Gandhinagar by 31 points, Patan (25), Sabarkantha (24), Ahmedabad (22) and Kheda (20). Urban areas of the state improved their sex ratios more than rural areas. However sex ratios in rural areas are considerably higher than urban areas.

- Most of the respondents are in the age group of 34-44 years. Researcher had selected married couples and also those who are having girl as one of the child or only child. Out of 100 per cent 67.5 per cent female respondents did participated where as 32.5

per cent males respondents. Majority of the respondents are from general category say 57.8 per cent where as 19.5 per cent are from OBC category and 17.2 per cent are from schedule caste. Out of 100 per cent 51.9 per cent are from nuclear family whereas 47.7 per cent are from joint family. Majority of respondents 91.9 per cent ( 466) belongs to Hindu religion. Whereas 4.5 per cent (23) belong to islam religion., and minimum number of respondents i.e 2.4 per cent (12) and 1.2 per cent ( 6) are belonging to Christianity and others religion. The difference between couples's age in present study found in majority case two years or three year. 24.7 per cent has two years difference whereas 18.3 percent and 17.2 per cent has 1 and 3 years difference between married couples. 44.4 per cent do have one girl child in the family where as 35.3 per cent does not have a girl child in the family. Respondent visiting to religious institution, where majority of the respondents 241 (47.5%) said that they go to religious institution sometimes which was followed by 80 (15.8%) with often response. Furthermore it was followed by 19.7% (100) with rarely response, 15% (76) disagrees by responding that they never visit to any religious institution and 2% did not give any answer for the same. It has been observed that 82.6 per cent do believed in family planning. It is good that 60 per cent do take collective decision about family planning. 44.4 per cent do have one girl child in the family where as 35.3 per cent do not have a girl child in the family. 61.3 per cent do have one boy child in the family whereas 35.3 doesnot have girl child in the family. It has been observed that 82.6 per cent do believed in family planning. It is good that 60 per cent do take collective decision about family planning. Nearly 60 percent respondents firmly opined that the ideal family compositions is having both girl and boy in the family. Positive note found that male child prefer girl in the family. Reason to have boy is to take care in the old age and can perform in hindu rituals functions otherwise girl child is most preference for them. They are aware that ratio of girl child is decreasing and cultural is responsible for such gravity of situations. They never found observed that that girl marriage is difficult for them but yes do agree that certain communities do find so due to dowry. Still in the era of globalisation the dowry is still prevailing in these regions say mehasan sural and gandhinagar. This stringent social customs where parents feel burdened hence that greatly impact on girl child ratio. Respondents does agreed that shutting sex determination centre greatly impact on improvement of girl child sex ratio and hence by stringent implementation of laws should be there.

- Researcher had done certain desktop review apart from primary data collections and following were extract of observation from literature review :

- Analyses of census and NFHS datasets during this period have linked gender biased sex selection to birth order in a substantive way (Rutherford and Roy, 2003, Bhatt 2007 and Arokiasamy 2007, Jha et al. 2006, Abrevaya 2009, Bhanot 2012). These studies have shown that while sex ratios are normal for first births, in second and third birth orders child sex ratio imbalances are most evident if the first born is a girl. The analysis of census data from 2001 to 2011, by Prabhat Jha et al. (2011) highlighted alarming figures. This study showed that gender biased sex selection accounted for four to twelve million girls having gone missing during this period and that the sex ratio of second born girls, when the first child was already a girl fell from 906:1000 to 836:1000. These findings highlighted the shocking magnitude of the phenomenon while also proving that even within large demographic studies, gender biased sex selection has to be examined contextually, with reference to specific factors such as birth order.
- In his paper “Sex Selective Abortions, Fertility and Birth Spacing” (August 2010), Claus C. Portner notes that while the strongest predictor of uneven sex ratio for a given parity is the sex composition of previous children, the propensity to use gender biased sex selection increases with socio-economic status, especially education. Using three rounds of NFHS data (92-92, 98-99 and 2005-2006), Portner proves that better educated women, that is those with eight or more years of education, in both rural and urban areas use gender biased sex selection and as fertility falls, even on lower birth parities. The study also notes that the proportion of males to females is larger in cities than in rural areas. Portner’s study is consistent with the findings of Rutherford and Roy (2003), Jha et al. (2006), Bhatt and Xavier, (2007), Subramaniam and Selvaraj (2009) and other similar studies. Jha et al. (2011) analysed birth order by sex ratio in 0.25 million births across three rounds of NFHS (1995-2005). Their findings showed that between 3-6 million girls were being lost to sex selection in the 2000’s and that declines in child sex ratios were higher in mothers with 10 years or more of education than in mothers with no education and in wealthier households than poorer households.
- Arokiasamy and Goli (2010) have also examined datasets from round 3 of NFHS (2006) to explore the hypothesis that families with larger land holdings are more likely to exhibit masculine child sex ratios. They conclude that “the size of household landholding is a critical predictor of skewed CSR’s in rural India after controlling for other socio-economic factors.” Other studies (Chamarbagwala and Ranger, 2006; Bose A. 2001; Sev’er A 2006; Rustagi P 2006, Kodoth, 2008; J. Joseantony, 2007) have also noted the role of dowry and hefty marriage expenses in making daughters undesirable. Ajinder Walia’s study in Punjab (2005) has shown dowry to be the leading cause cited by respondents for supporting gender biased sex selection. This trend remained the same for districts with low, medium and high child sex ratios.
- Research studies such as those by Das Gupta and Bhat, 1997; Arnold et al., 2002; Bhat, 2002; Bhaskar and Gupta, 2007; and Rutherford and Roy, 2003 have shown that the increase in sex ratios at birth happened along with the wide spread availability of prenatal Insights and Learnings sex determination technologies. These studies built the argument that unregulated use of ultrasound facilities was a major contributing factor for sex selective abortions, which in turn was leading to a skewed child sex ratio in India

- Guilmoto (2012) has estimated that by 2050, the number of prospective grooms will exceed unmarried women by 60% in India. He has also pointed out that men from poorer and socio-economically disadvantaged strata may be impacted more seriously because they would find it harder to attract brides compared to men from affluent sections of society. Hudson and de Boer (2001) were among the first to point out that that excessive numbers of unmarried men could lead to increased public unrest, violence and vandalism as they have practically no stakes in building a stable future society..
- Focused group discussion took place and certain observation was carried out :-
  - For better or worse, some of the usual social, cultural, and economic norms in Indian society's choice of mates ought to be swayed.
  - Respondents viewed that there are hidden reports of bride buying and forced remarriage of widows. Some suggest that in the near future social tension could rise because of the challenge of finding female partners, and may lead to crimes against women. Others wonder if a shortage of women will lead to less violence against them, or a decrease in dowries.
  - Respondents shared that by aiming to reduce the excessive son preference, a change in social outlook would directly increase the female child population. With modernization, acceptance of the small family norm, access to pre-natal sex determination tests and abortion technologies has further aggravated the situation. The urge to have a son translates into reality with the spread of technology to the doorstep of couples; it has become very easy to produce only sons.
  - Respondents firmly opined that the sex ratio of a population in these region is influenced by both the current and the past pattern of fertility, mortality, sex-selective abortions and migration rates.
  - Medical respondents has viewed that research urgently needs to focus on exploring attitudes and responses of the medical fraternity to sex determination testing and the ethics around the use of such technologies thought the process is started and doctor association greatly condemned the action but saddest part is there as hidden level things are going on.

An in depth study need to be carried out so as to understand and internalise that why more literate married couples who are more in urban area than in rural area, welcome expect a male child more in comparison to expectation of female child. crux of matter emerges that there is a -ve correlation coefficient between literacy and neonatal male child. It means that more the literacy rate, more the tendency of expecting male child as neonatal in comparison to a female child. For this, scientific method likes sonography, knowingly or unknowingly through examination of fetus (male or female) has played an important role.

Limitation of these studies are : A gap in research on gender biased sex selection has been in examining the consequences of the issue from a human rights and capability framework. here is little understanding about how the practice of gender biased sex selection impacts self-esteem and agency of women and girls and what are its costs to national economies and productivity and what are its intergenerational effects. Much of the research on sequences of

gender biased sex selection focuses only on its impact on the marriage market. While the rhetoric has changed to promote women's right to life, the research agenda is yet to engage with such a framework.

In nutshell the researcher would like to address that the increasing imbalance in sex ratios is a sign of continued inequality between the sexes. The scarcity of females, they add, is symptomatic of their low value. The common observation found in the study that Gender biased sex selection is not practised by everyone who has daughters as their first or second born. There is little research to understand the motivation of people who have welcomed the birth of daughters among higher birth orders even when they already have daughters as their first or second born. Such studies are important in identifying individual and community level factors and perceptions, including community norms that impact sex selection.

The broad suggestions by researcher are to work on both long term as well as short term. In the long term, they recommend ensuring equal entitlements such as property rights, equal access to nutrition, health, education, and affection, and addressing the overall question of dowry and the necessity of marriage. In the short term, incentives to educate girls, financial support for girls, educating healthcare professionals and stopping incentives for sterilization are suggested. Further, A critical analysis of how policies and laws aimed at restoring gender equality have played a protective and/or preventive role by impacting the value attached to girls and women is also an area for deeper inquiry.

**Table 1 : Child Sex Ratio and Overall Sex Ratio**

| Year | Child Sex Ratio (0-6) | Overall Sex Ratio |
|------|-----------------------|-------------------|
| 1961 | 976                   | 941               |
| 1971 | 964                   | 930               |
| 1981 | 962                   | 934               |
| 1991 | 945                   | 927               |
| 2001 | 927                   | 933               |
| 2011 | 918                   | 943               |

*Source: Primary Census Abstract, 2011*

**Table 2: Decline in Child Sex Ratio and Overall Sex Ratio**

| Census Year | Child Sex Ratio | Over all Sex Ratio |
|-------------|-----------------|--------------------|
| 1961        | -7              | -5                 |
| 1971        | -12             | -11                |
| 1981        | -2              | 4                  |
| 1991        | -17             | -7                 |
| 2001        | -18             | 6                  |
| 2011        | -9              | 10                 |

*Source: Census of India, 1961, 1981, 2001 & 2011.*

**Table 3 Trends in Child Sex Ratio by Residence**

| Census Year | Total | Rural | Urban |
|-------------|-------|-------|-------|
| 1981        | 962   | 963   | 931   |
| 1991        | 945   | 948   | 935   |
| 2001        | 927   | 934   | 906   |
| 2011        | 914   | 919   | 902   |

*Source: Primary Census Abstract, 2011*

Table 4

| Sr. No | Year    | Child Sex Ratio |       |       | Literacy Rate |       |       |
|--------|---------|-----------------|-------|-------|---------------|-------|-------|
|        |         | Rural           | Urban | Total | Rural         | Urban | Total |
| 1      | 1961(*) | 978             | 948   | 971   | 24.09         | 48.77 | 30.45 |
| 2      | 1971(*) | 963             | 950   | 869   | 28.33         | 54.90 | 35.78 |
| 3      | 1981@   | 953             | 933   | 947   | 36.20         | 60.31 | 43.70 |
| 4      | 1991@   | 948             | 935   | 945   | 53.09         | 76.59 | 61.29 |
| 5      | 2001@   | 934             | 906   | 927   | 61.29         | 81.24 | 69.14 |
| 6      | 2011@   | 923             | 905   | 918   | 73.00         | 87.58 | 79.31 |

(\*) 0-4 years age group (@) 0-6 years age group

Source: Primary Census Abstract, 2011

Table 5 Sex Ratio at Birth

| Sr. No | India/ State/ Union Territory | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|--------|-------------------------------|------|------|------|------|------|------|------|------|------|------|
|        | India                         | 875  | 872  | 868  | 872  | 876  | 891  | 903  | 904  | 898  | 857  |
| States |                               |      |      |      |      |      |      |      |      |      |      |
| 1      | Andhra Pradesh                | 934  | 936  | 973  | 972  | 987  | 973  | 974  | 986  | 985  | 983  |
| 2      | Arunachal Pradesh             | 887  | 806  | 812  | 864  | 799  | 792  | 854  | 875  | 806  | 792  |
| 3      | Assam                         | n.a. | n.a. | 750  | n.a. | 732  | 876  | 834  | 853  | 931  | 1244 |
| 4      | Bihar                         | 984  | 779  | 826  | 801  | 793  | n.a. | n.a. | n.a. | 715  | 323  |
| 5      | Chhattisgarh                  | 925  | 920  | 926  | 919  | 939  | 919  | 919  | 886  | 924  | 906  |
| 6      | Goa                           | 919  | 929  | 931  | 931  | 931  | 963  | 947  | 931  | 921  | 908  |
| 7      | Gujarat                       | 802  | 826  | 835  | 824  | 846  | 972  | 879  | 883  | 905  | 902  |
| 8      | Haryana                       | 789  | 829  | 814  | 796  | 827  | 857  | 860  | 854  | 853  | 838  |
| 9      | Himachal Pradesh              | 856  | 866  | 877  | 872  | 866  | 885  | 903  | 904  | 922  | 911  |
| 10     | Jammu & Kashmir               | 916  | 923  | 925  | 934  | 923  | 906  | 922  | 906  | 918  | 917  |
| 11     | Jharkhand                     | n.a. | n.a. | n.a. | 840  | 830  | 835  | 865  | 878  | 864  | 865  |
| 12     | Karnataka                     | 971  | 956  | 924  | 858  | 943  | 952  | 1004 | 1047 | 1011 | 1025 |

|                          |                |      |      |      |      |      |         |      |          |         |      |
|--------------------------|----------------|------|------|------|------|------|---------|------|----------|---------|------|
| 13                       | Kerala         | 968  | 944  | 951  | 946  | 949  | 95<br>5 | 944  | 952      | 942     | 939  |
| 14                       | Madhya Pradesh | 841  | 823  | 841  | 864  | 855  | 85<br>5 | 905  | 913      | 938     | 922  |
| 15                       | Maharashtra    | 819  | 826  | 808  | 811  | n.a. | n.a.    | n.a. | 870      | 868     | 854  |
| 16                       | Manipur        | 753  | 949  | 923  | 1004 | 1011 | 96<br>3 | 913  | 950      | 934     | 770  |
| 17                       | Meghalaya      | 942  | 976  | 875  | 1011 | 918  | 96<br>5 | 864  | 959      | 948     | 912  |
| 18                       | Mizoram        | 927  | 913  | 926  | 945  | 940  | 95<br>2 | 938  | 942      | 949     | 948  |
| 19                       | Nagaland       | 894  | 980  | 971  | 977  | 980  | 80<br>4 | 823  | 802      | 883     | 871  |
| 20                       | Odisha         | 939  | 988  | 950  | 927  | 934  | 92<br>7 | 919  | 935      | 925     | 911  |
| 21                       | Punjab         | 954  | 777  | 789  | 794  | 790  | 81<br>3 | 820  | 820      | 822     | 824  |
| 22                       | Rajasthan      | 825  | 806  | 833  | 820  | 805  | 82<br>8 | 832  | 785      | 861     | 839  |
| 23                       | Sikkim         | 936  | 1252 | 935  | 956  | 954  | 94<br>1 | 981  | 951      | 955     | 961  |
| 24                       | Tamil Nadu     | 929  | 926  | 920  | 936  | 935  | 93<br>9 | 935  | 928      | 933     | 935  |
| 25                       | Tripura        | 914  | 1121 | 1202 | N.r. | n.a. | n.a.    | n.a. | n.a.     | n.a.    | 996  |
| 26                       | Uttar Pradesh  | n.a. | n.a. | n.a. | n.a. | n.a. | n.a.    | n.a. | n.a.     | n.a.    | n.a. |
| 27                       | Uttarakhand    | n.a. | n.a. | n.a. | 845  | 864  | 87<br>3 | 869  | 860      | 855     | 858  |
| 28                       | West Bengal    | 904  | 882  | 889  | 903  | 906  | 89<br>0 | 918  | 914      | 929     | 931  |
| <b>Union Territories</b> |                |      |      |      |      |      |         |      |          |         |      |
| 1                        | A & N Islands  | 968  | 927  | 1003 | 935  | 967  | 93<br>3 | 949  | 961      | 97<br>3 | 934  |
| 2                        | Chandigarh     | 771  | 827  | 807  | 786  | 826  | 86<br>0 | 860  | 872      | 87<br>6 | 878  |
| 3                        | D & N Haveli   | 865  | 833  | 932  | 879  | 918  | 89<br>5 | 917  | 946      | 92<br>8 | 905  |
| 4                        | Daman & Diu    | 860  | 876  | 915  | 906  | 869  | 84<br>7 | 908  | 916      | 93<br>4 | 912  |
| 5                        | Delhi          | 809  | 831  | 823  | 823  | 822  | 83<br>1 | 848  | 100<br>4 | 91<br>5 | 901  |
| 6                        | Lakshadweep    | 908  | 968  | 991  | 843  | 869  | 89<br>9 | 911  | 934      | 86<br>6 | 1015 |
| 7                        | Pondicherry    | 946  | 937  | 942  | 936  | 950  | 95<br>5 | 950  | 923      | 92<br>7 | 917  |

Source: Primary Census Abstract, 2011

Table 6 Comparison of Gujarat Child Sex Ratio and India

| Sr. No | Year    | Gujarat | India |
|--------|---------|---------|-------|
| 1      | 1961(*) | 971     | 962   |
| 2      | 1971(*) | 969     | 979   |
| 3      | 1981@   | 947     | 962   |
| 4      | 1991@   | 928     | 945   |
| 5      | 2001@   | 883     | 927   |
| 6      | 2011@   | 890     | 918   |

(\*) 0-4 years age group (@) 0-6 years age group

*Source: Primary Census Abstract, 2011*

Table 7 Showing the distribution of the Respondents opinion about family planning

| Opinion      | Frequency  | Percent      |
|--------------|------------|--------------|
| Yes          | 419        | 82.6         |
| No           | 88         | 17.4         |
| <b>Total</b> | <b>507</b> | <b>100.0</b> |

**Table 8 Showing the distribution of the Respondents opinion about decision on family planning**

| <b>Family Planning Decision</b> | <b>Frequency</b> | <b>Percent</b> |
|---------------------------------|------------------|----------------|
| Husband                         | 178              | 35.1           |
| Wife                            | 25               | 4.9            |
| Both                            | 304              | 60.0           |
| <b>Total</b>                    | <b>507</b>       | <b>100.0</b>   |

**Table 9 Showing Distribution of Respondents opinion about Ideal Family Composition**

| <b>Ideal Family composition</b> | <b>Frequency</b> | <b>Percent</b> |
|---------------------------------|------------------|----------------|
| One Boy                         | 64               | 12.6           |
| One Girl                        | 28               | 5.5            |
| One boy and One Girl            | 308              | 60.7           |
| Two Girls                       | 24               | 4.7            |
| Two Boys                        | 28               | 5.5            |
| Two Boys & One Girl             | 29               | 5.7            |
| Two Girls & a boy               | 26               | 5.1            |
| <b>Total</b>                    | <b>507</b>       | <b>100.0</b>   |

**Table 10 Showing the distribution of respondents among husbands' preferring girl or boy child**

| <b>Response</b> | <b>Frequency</b> | <b>Percent</b> |
|-----------------|------------------|----------------|
| Girl Child      | 232              | 45.8           |
| Boy Child       | 139              | 27.4           |
| Both            | 91               | 17.9           |
| Neutral         | 45               | 8.9            |
| <b>Total</b>    | <b>507</b>       | <b>100.0</b>   |

**Table: 11 Showing the distribution of respondents among wife's preferring girl or boy child**

| <b>Response</b> | <b>Frequency</b> | <b>Percent</b> |
|-----------------|------------------|----------------|
| Girl Child      | 182              | 35.9           |
| Boy Child       | 170              | 33.5           |
| Both            | 105              | 20.7           |
| Neutral         | 50               | 9.9            |
| <b>Total</b>    | <b>507</b>       | <b>100.0</b>   |

**Table: 12** Showing the distribution of respondents prefer boy child due to lineage continuation

| Response     | Frequency  | Percent      |
|--------------|------------|--------------|
| yes          | 43         | 8.5          |
| no           | 62         | 12.2         |
| No response  | 402        | 79.3         |
| <b>Total</b> | <b>507</b> | <b>100.0</b> |

**Table: 13** Showing distribution of respondents heard about sex ratio

| Response     | Frequency  | Percent      |
|--------------|------------|--------------|
| Yes          | 326        | 64.3         |
| No           | 157        | 31.0         |
| No response  | 24         | 4.7          |
| <b>Total</b> | <b>507</b> | <b>100.0</b> |

Table: 14 Showing the distribution of respondents prefer boy child due to cultural aspects

| Response | Frequency | Percent |
|----------|-----------|---------|
| Yes      | 127       | 25.0    |
| No       | 55        | 10.8    |
| Neutral  | 325       | 64.1    |
| Total    | 507       | 100.0   |

Table: 15 Showing the distribution of respondents prefer boy child due to old age security

| Response       | Frequency | Percent |
|----------------|-----------|---------|
| Yes            | 186       | 36.7    |
| No             | 32        | 6.3     |
| Don't think so | 289       | 57.0    |
| Total          | 507       | 100.0   |

Table: 16 Showing distribution of respondents improving society's sex ratio by educating people

| Response     | Frequency  | Percent      |
|--------------|------------|--------------|
| yes          | 337        | 66.5         |
| NO           | 1          | .2           |
| No response  | 169        | 33.3         |
| <b>Total</b> | <b>507</b> | <b>100.0</b> |

Table: 17 Showing distribution of respondents improving society's sex ratio by stopping female foeticide

| Response     | Frequency  | Percent      |
|--------------|------------|--------------|
| Yes          | 181        | 35.7         |
| No           | 5          | 1.0          |
| No response  | 321        | 63.3         |
| <b>Total</b> | <b>507</b> | <b>100.0</b> |

Table: 18 Showing distribution of respondents improving society's sex ratio by legal measures

| Response     | Frequency  | Percent      |
|--------------|------------|--------------|
| Yes          | 131        | 25.8         |
| No           | 7          | 1.4          |
| No response  | 369        | 72.8         |
| <b>Total</b> | <b>507</b> | <b>100.0</b> |

Section – (C) Views of respondents towards Adverse Sex Ratio

Table: 19 Showing distribution of respondents views on sons are more expensive to bring up than daughters

| Response          | Frequency  | Percent      |
|-------------------|------------|--------------|
| Strongly Disagree | 122        | 24.1         |
| Agree             | 127        | 25.0         |
| Neutral           | 124        | 24.5         |
| Disagree          | 94         | 18.5         |
| Strongly Disagree | 28         | 5.5          |
| No response       | 12         | 2.4          |
| <b>Total</b>      | <b>507</b> | <b>100.0</b> |

Table: 20 Showing distribution of respondents views on daughters are more expensive to bring up than sons

| Response          | Frequency  | Percent      |
|-------------------|------------|--------------|
| Strongly Agree    | 70         | 13.8         |
| Agree             | 147        | 29.0         |
| Neutral           | 124        | 24.5         |
| Disagree          | 97         | 19.1         |
| Strongly Disagree | 53         | 10.5         |
| No response       | 16         | 3.2          |
| <b>Total</b>      | <b>507</b> | <b>100.0</b> |

Table: 21 Showing distribution of respondents views on facing difficulty in arranging marriage of daughter

| Response          | Frequency  | Percent      |
|-------------------|------------|--------------|
| Strongly Agree    | 35         | 6.9          |
| Agree             | 107        | 21.1         |
| "Neutral"         | 127        | 25.0         |
| Disagree          | 161        | 31.8         |
| Strongly Disagree | 36         | 7.1          |
| No response       | 41         | 8.1          |
| <b>Total</b>      | <b>507</b> | <b>100.0</b> |

Table: 22 Showing distribution of respondents views on the aspect that daughters will take care when old

| Response            | Frequency | Percent |
|---------------------|-----------|---------|
| "Strongly Agree"    | 156       | 30.8    |
| "Agree"             | 179       | 35.3    |
| "Neutral"           | 93        | 18.3    |
| "Disagree"          | 33        | 6.5     |
| "Strongly Disagree" | 20        | 3.9     |
| No response         | 26        | 5.1     |
| Total               | 507       | 100.0   |

Table: 23 Showing distribution of respondents' views on the perception dowry should be abolished

| Response            | Frequency | Percent |
|---------------------|-----------|---------|
| "Strongly Agree"    | 249       | 49.1    |
| "Agree"             | 146       | 28.8    |
| "Neutral"           | 54        | 10.7    |
| "Disagree"          | 28        | 5.5     |
| "Strongly Disagree" | 21        | 4.1     |
| No Response         | 9         | 1.8     |
| Total               | 507       | 100.0   |

Table: 24 Showing distribution of respondents' views on the perception about suggestive measures for curbing the problem of dowry

| Response            | Frequency  | Percent      |
|---------------------|------------|--------------|
| "Strongly Agree"    | 111        | 21.9         |
| "Agree"             | 130        | 25.6         |
| "Neutral"           | 104        | 20.5         |
| "Disagree"          | 21         | 4.1          |
| "Strongly Disagree" | 6          | 1.2          |
| No response         | 135        | 26.6         |
| <b>Total</b>        | <b>507</b> | <b>100.0</b> |

Table: 25 Showing distribution of respondents' views on the perception about strict implementation of laws

| Response            | Frequency  | Percent      |
|---------------------|------------|--------------|
| "Strongly Agree"    | 257        | 50.7         |
| "Agree"             | 164        | 32.3         |
| "Neutral"           | 51         | 10.1         |
| "Disagree"          | 14         | 2.8          |
| "Strongly Disagree" | 3          | .6           |
| No response         | 18         | 3.6          |
| <b>Total</b>        | <b>507</b> | <b>100.0</b> |

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